

# **ATTACHMENT A**

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**AN ANALYSIS OF MARKET POWER IN THE PROVISION OF HIGH-CAPACITY ACCESS IN  
THE CHICAGO LATA: REPLY TO COMMENTS OF INTERVENING PARTIES**

**By Dr. Debra J. Aron  
LECG, Inc.**

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## I. INTRODUCTION

The purpose of this affidavit is to respond to criticisms raised by parties opposing Ameritech's petition for forbearance from dominant carrier regulation for high-capacity services in the Chicago LATA. The opposing parties, who for the most part are Ameritech's competitors in the Chicago LATA, have challenged my finding that Ameritech lacks market power, and the validity of some of the data presented in my initial Report.<sup>1</sup> In some cases, the criticisms represent a misunderstanding of the data and/or arguments I presented. I correct those misunderstandings in this affidavit. Other criticisms are targeted at the validity of the survey results provided by Quality Strategies, Inc. (QSI), upon which some of my analysis relied.<sup>2</sup> In addition to responding to the specific points raised by other parties, I present in this affidavit complementary evidence based on a study performed by LECG under my supervision, that demonstrates the viability of CAP network expansion from a business case perspective. The results of my study stand on their own, and should overcome any objections based on the opposing parties' skepticism of the QSI data. The study is fully explained in Appendix II of this Report.

In particular, in this Report I will demonstrate the following:

1. The costs of constructing local distribution channels (LDCs) for the major IXCs, given the fiber already known to exist, are not prohibitive and do not constitute an entry barrier, contrary to the assertions of AT&T. Indeed, under our most conservative assumptions, MCI and AT&T can together profitably build out to Ameritech's customer locations that account for 93% of Ameritech's current special access customer revenue in the Chicago LATA. In fact, almost 40% of the revenue from Ameritech's high-capacity customer

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<sup>1</sup> Federal Communications Commission, CC Docket No. 99-65, "An Analysis of Market Power in the Provision of High-Capacity Access in the Chicago LATA in Support of Ameritech's Petition for Section 10 Forbearance, attached to *Petition of Ameritech for Forbearance from Dominant Carrier Regulation of its Provision of High Capacity Services in the Chicago LATA*, February 5, 1999 ("Aron Report").

locations are in buildings where competitors already have fiber facilities installed.

2. Given the ability and incentive of competitors to build out, Ameritech faces significant and measurable constraints on its incentive to increase price if the Commission grants forbearance.
3. The fact that Ameritech's customers, who are primarily the IXC's, can choose lower prices for longer term commitments (referred to by opposing parties as "termination penalties") does not create a barrier to entry.
4. The opposing parties' objections to my market definitions are contradictory and unfounded.
5. Ameritech's pricing behavior is consistent with that of a firm facing competition, given its regulatory pricing constraints.
6. Retail special access market share is not "meaningless," but rather is important and relevant to a proper analysis of market power in this market.
7. Granting Ameritech non-dominant status in the Chicago high-capacity access market will not increase any risk that Ameritech will engage in predatory pricing or cross-subsidization.

## II. RESPONSE TO THE COMMENTS OF AT&T

AT&T raised numerous issues in opposition to Ameritech's petition for forbearance, many of which were echoed by other intervenors. For convenience's sake, in this Section I respond specifically to the five affidavits attached to AT&T's filing,<sup>3</sup> citing to other intervenors' comments where relevant or subtly different from AT&T's argument. Issues raised by other intervenors that were *not* raised by AT&T are addressed in Section III.

### A. Response of Drs. Ordoover and Willig

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<sup>2</sup> Aron Report, Exhibits 5 - 8 ("*QSI Reports*").

<sup>3</sup> Federal Communications Commission, CC Docket No. 99-65, AT&T Corp. Opposition, March 31, 1999 ("*AT&T Opposition*").

AT&T attaches an affidavit by two economists, Janusz Ordoover and Robert Willig, as Exhibit A to its Opposition. As this was the only report from any opposing party that was written by economists, I will respond to it in the greatest depth.

1. Information "Asymmetries" and Criticisms of the Quality Strategies Data

Drs. Ordoover and Willig begin their comments by agreeing with me and with Congress that "forbearance is in the public interest if in the absence of regulation, the incumbent cannot exercise undue market power, and if the absence of regulation will promote competition in the relevant product and geographic market."<sup>4</sup> They proceed to opine, however, that it is appropriate for Ameritech to bear the burden of proof in this proceeding because of the "informational asymmetries with respect to such issues as the locations and capacities of the facilities the incumbent uses to provide special access services, the locations and the extent to which competitors have interconnected to the incumbent's network, and the extent to which 'facilities-based' competitors still rely on components purchased from Ameritech."<sup>5</sup> This is a remarkable and patently false assertion: it is in fact the competitive providers who have the best information about the extent to which they have made competitive inroads and about the location and capacities of competitive facilities. While Ameritech presumably has superior information about its *own* network facilities, it has no better information than the competitors about where they interconnect with Ameritech, and it has no first-hand knowledge whatsoever about the extent to which competitors have built out their own facilities independent of Ameritech's facilities. Indeed, only the competitors have complete evidence regarding the "locations and capacities" of their own facilities that do not appear at Ameritech's wire centers.

This lack of direct information is precisely why Ameritech retained QSI to estimate the competitive inroads made by Ameritech's competitors, and to identify to the extent possible the locations and capacities of competitive fiber. Competitive companies like AT&T understandably consider this information sensitive and therefore make it very

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<sup>4</sup> *AT&T Opposition*, Exhibit A, ¶ 13.

difficult for competitors such as Ameritech to acquire. Research companies, such as QSI, therefore must devise survey methods to estimate it. Essentially, they identify a sample of customers and ask them about the services they buy and who provides them. While AT&T (and a number of other opposing parties) criticizes and questions the validity of the QSI results, it is AT&T and the other competitive providers that have the data that QSI is attempting to estimate. If AT&T and the other competitors want perfectly accurate data on the record rather than best-estimates based on survey methods, they should supply it from their own records.

It is worth noting that Ameritech did not retain QSI for the purpose of this forbearance filing or to fulfill any regulatory objective; the Ameritech Long Distance Industry Services Business Unit has retained QSI for over 4 years as part of its efforts to understand Ameritech's competitive position and compete more effectively. Just as any competitive company conducts research to determine how it is faring in the marketplace, so does Ameritech; it is this research that Ameritech adopted for this filing. The fact that the QSI research presented here was performed and has been performed for many years by QSI for Ameritech's *marketing* people to marketing specifications, makes evident that there is no incentive for Ameritech or QSI to bias the results in Ameritech's favor. Companies need accurate information, whether favorable or unfavorable, to compete effectively.

AT&T has provided scant evidence from its own records to contradict the QSI results. Moreover, the evidence that it has provided and to which it misleadingly compares the QSI results is not at all comparable to the QSI results, as I will explain below, and as AT&T clearly knew or could have known had it read the QSI reports I attached to my initial Report. Indeed, as I also will explain below, while AT&T and other parties complain that the QSI results are not sufficiently documented or "verified," AT&T offers statistics that it compares to the QSI results but for which it provides no explanation or documentation whatsoever. I provided more than 90 pages of reports from QSI that presented the data and, in their own words, detailed the methodology of their

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<sup>5</sup> *AT&T Opposition*, Exhibit A, ¶ 14.

studies. AT&T provided nothing to support its own rebuttal evidence. Finally, while AT&T offers undocumented and unexplained expenditure and revenue figures, it makes no attempt to rebut QSI's results on the retail market share, amount or location of its own backbone facilities, or my analysis of the extent of collocation.

In my initial Report, I attempted to disclose all information and explanations necessary to fully understand my analysis. In response to the comments of AT&T, however, I will attempt to address the specific questions that AT&T raised regarding the QSI studies. In addition, in Appendix I, I provide detailed explanations of the methodology and results in my initial Report that were prepared by LECG or Ameritech under my supervision. In Appendix II, I provide a detailed explanation of the LECG CAP expansion model, the results of which appear in Section IV. Finally, in Appendix III, I attach a statement of QSI, which addresses concerns raised regarding their methodology and results.

## 2. Conditions for Regulatory Forbearance

Drs. Ordoover and Willig proceed to argue that "the Commission should insist that the incumbent LEC demonstrate with specificity that it has lost its market power with respect to each *critical component* of the services at issue."<sup>6</sup> (emphasis in original) I agree with them entirely, and I also agree that the critical components for provision of special access are the LDC and the dedicated transport.<sup>7</sup> That is precisely why I structured my Report and presentation of the evidence as I did. My initial Report focused on two kinds of evidence: market share and other measures of competition for LDCs, and market share and other measures of competition for dedicated transport. The evidence presented in Table 1 on page 21 of my initial Report clearly includes market shares for LDC provisioning and market shares for dedicated transport. I took pains in that report to separately present and evaluate the evidence on each, and determined that each separately demonstrates a lack of market power by Ameritech.

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<sup>6</sup> AT&T Opposition, Exhibit A, ¶ 15.



I further agree with Drs. Ordoover and Willig that a demonstration of the lack of market power requires evidence of actual or potential entry that is consistent with the geographic scope of the petition,<sup>8</sup> and that the incumbent's past pricing behavior is relevant to a determination of competition.<sup>9</sup> In particular, I concur with them that:

the Commission's analysis should not be confined to only the levels of existing competition. The ability of an incumbent LEC to exercise market power might also be constrained by potential competition.... Alternatively, the Commission should require specific, verifiable, and conclusive evidence that where entry is not, in fact, occurring, why it would occur in a timely manner and on an efficient scale to render unprofitable any attempt by the incumbent to exercise market power if forbearance were granted.<sup>10</sup>

I provide such "specific, verifiable, and conclusive evidence" in Section IV of this Report, where I discuss the results of my entry analysis. Ameritech's pricing behavior is addressed in the affidavit of Ms. Denise Reidy (attached as Appendix IV), which I discuss in Section II(A).

While Drs. Ordoover and Willig have nicely articulated the economic criteria of actual and potential competition that should guide the Commission in its analysis of market power, they nevertheless appear to misunderstand the nature and purpose of this proceeding when they state that Ameritech seeks "complete deregulation of *all* high-capacity services over an area that encompasses a large majority of the demand for such services in the State of Illinois."<sup>11</sup> Forbearance in no way constitutes "complete deregulation." Forbearance only removes the asymmetric regulation that affects

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<sup>7</sup> *AT&T Opposition*, Exhibit A, ¶ 16.

<sup>8</sup> CoreComm and Sprint, in contrast, urge the Commission to adopt a state-wide geographic market. These arguments are self-serving and inconsistent with the objective of the Act to facilitate the opening of markets to competition. First, forcing consumers to wait until the entire state is competitive requires the public to forgo the benefits of competition in those markets where competition develops first. Second, a statewide requirement would make the process of deregulation beholden to the CLECs' decisions to enter all of the markets in the state. Third, such a policy is inconsistent with state and federal precedent, that has permitted limited geographic deaveraging of rates based on costs and competitive differences. (See Federal Communications Commission, CC Docket No. 99-65, *Comments of CoreComm Ltd.*, March 31, 1999 ("*CoreComm Opposition*"), pp. 10-11; *Opposition of Sprint Corporation*. ("*Sprint Opposition*"), pp. 7-9.

<sup>9</sup> *AT&T Opposition*, Exhibit A, ¶ 23.

<sup>10</sup> *AT&T Opposition*, Exhibit A, ¶ 22.

Ameritech as a “dominant” carrier. If forbearance were granted, Ameritech would nevertheless be subject to the same regulation that its competitors in the high-capacity market face, including the Title II requirements in the Telecommunications Act, that its rates continue to be just and reasonable and not unreasonably discriminatory, and that its activities in this market be subject to investigation by the Commission upon complaint.<sup>12</sup>

### 3. AT&T’s Evidence in Opposition to Ameritech’s Petition

Ordoover and Willig conclude in their affidavit that Ameritech owns a bottleneck on LDCs, and that there are significant barriers to entry in the provision of LDCs.<sup>13</sup> They refer to the declarations of the other AT&T affiants as sole support for their conclusions. Ordoover and Willig also rely on the declarations of their fellow AT&T affiants to support their conclusions that my data “significantly understated Ameritech’s share of dedicated transport.”<sup>14</sup> I will respond to the other affiants directly; I note here that if the other affiants’ conclusions are erroneous, then Ordoover and Willig’s conclusions are left entirely unsupported.

Even aside from the validity of the results of the other affiants upon which they rely, however, Ordoover and Willig’s analysis is puzzling. They say, “although Dr. Aron claims that Ameritech supplies less than fifty percent of dedicated transport (LSO to POP) purchases at the DS1 level, Aron Report at 21...”<sup>15</sup> Yet, I provide *no such numbers* at that page or anywhere in my Report. Not only do the numbers that they attribute to me not match any numbers in my Report, I do not have market share figures for dedicated transport that are broken down to the DS1 level, reported or unreported. Similarly, Ordoover and Willig refer in the same paragraph to numbers in my Report for DS3 dedicated transport; again, I neither have nor present anywhere in my Report such numbers. Their reference to and apparent reliance on numbers that do not exist in my filing further call into question the support for their conclusions.

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<sup>11</sup> *AT&T Opposition*, Exhibit A, ¶ 27.

<sup>12</sup> *Communications Act of 1934*, §§ 201 – 202, 208.

<sup>13</sup> *AT&T Opposition*, Exhibit A, ¶ 29-31.

<sup>14</sup> *AT&T Opposition*, Exhibit A, ¶ 33.

<sup>15</sup> *AT&T Opposition*, Exhibit A, ¶ 33.

#### 4. The Significance of Retail Market Share

Ordoover and Willig argue at paragraph 34 that the fact that competitors provide 94% of special access at the retail level “has no economic significance.” MCI WorldCom makes a similar argument.<sup>16</sup> I first note that neither party questions the validity of the retail market share numbers. While acquiescing to the market share numbers, their argument appears to be that the retail market share does not indicate that the retail services are provided over the competitors’ own facilities.

Ordoover and Willig’s observation that retail market share does not indicate ownership of the underlying facility is correct, as I acknowledged in my Report and which the statistics that I presented clearly indicate. However, as clearly explained by my first Report,<sup>17</sup> the retail relationship does have economic significance aside from the provision of facilities, and the competitive significance is quite real. First, most of the access providers in the market today are diversified IXCs that provide an array of telecommunications services in addition to special access. The carrier with the customer relationship for access has the opportunity to sell a variety of services, often bundled, to the customer. Hence, providing access is a gateway to many other profit opportunities for competitors.

Second, taking the retail relationship from Ameritech provides some limit to any market power the incumbent might otherwise have had in the wholesale market. I reiterate the example I provided in my initial Report: Suppose Ameritech were the underlying supplier of special access, either the dedicated transport or the LDC piece, to a customer, and MCI WorldCom were reselling the service as the retail provider to the customer. Now, suppose that Ameritech tried to increase the wholesale price to MCI WorldCom. One of MCI WorldCom’s options would be to extend its own facilities to that customer and strand Ameritech’s facilities. The fact that MCI WorldCom already has that customer means that this change could be made almost transparently to the

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<sup>16</sup> *MCI WorldCom Opposition*, p.16.

customer, and would not require the customer to shop for a new provider or change providers. Hence, owning the customer relationship would facilitate MCI WorldCom's ability to profitably build out to the customer by lowering its risk and circumventing any resistance the customer might have to switching suppliers.

Third, the retail share provides some indication of the ease with which competitors can further extend their participation and invest in facilities in the future. As I stated in my Report, the common business plan of competitors is to develop a customer base by providing services as a reseller or by using Ameritech's LDC facilities, and then to build out when the revenue base is established and the risks are limited. For example, TCG's 1997 Form 10K states that:

The Company's strategy for adding customers is designed to maximize the speed and impact of its marketing efforts while maintaining attractive rates of return on capital invested to connect customers directly to its networks. To initially serve a new customer, for example, TCG may use various transitional links, such as reselling a portion of the ILEC's network .... *Once the new customer's communications volume and product needs are identified*, the Company may build its own fiber optic connection between the customer's premises and its networks to accommodate (i) the customer's current and future telecommunications needs and (ii) TCG's efforts to maximize return on network investment. (emphasis added)

TCG's strategy as stated is to use the retail relationship to determine the customer's needs before making the investment in facilities.

Indeed, the notion that it is valuable to control the retail relationship with a customer in the telecommunications market is partly what underlies the importance of resale to competition of local exchange services. The Telecommunications Act of 1996 specifically requires that ILECs provide their services at a wholesale discount to resellers. Clearly, the benefits to customers and to competition from pure resale are limited, because resellers cannot innovate and have restricted abilities to provide more efficient service. Instead, a more important benefit of resale is that it provides an entry strategy

for competitors who will establish the customer relationship and then build facilities behind it.

Drs. Ordoover and Willig have themselves acknowledged the importance of the retail relationship in a prior affidavit to the FCC:

Such unbundling and resale will enable entrants quickly to build relationships with end users based on marketing, customer service, and innovative modifications or additions to existing network elements, without incurring all of the risks inherent in making the enormous investments needed to build every element of an entire network simultaneously from scratch. *The resulting commercial relationships with end users should in turn serve as a powerful springboard for integration backward through further facilities-based entry.*<sup>18</sup> (emphasis added, footnote omitted)

The current providers in the Chicago area have shown that build-out can be accomplished quickly. The fact that these competitors control the customer relationships virtually throughout the market means that they are poised to provide facilities-based service, at little risk, if Ameritech were to attempt a wholesale price increase. Indeed, they presumably will build out in any event, as they already have done to a great extent.

##### 5. The High-Capacity Product Markets

Ordoover and Willig argue at paragraph 35 that by treating special access and switched access separately, I have understated Ameritech's market power. Their analysis is faulty on several grounds. First, they misrepresent my methodology. I did not treat special access and switched access as "separate markets," but rather I treated special access and *dedicated transport* as separate markets. Dedicated transport provides the delivery of minutes of use from Ameritech's wire centers to the IXC's POP. Special

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<sup>18</sup> Federal Communications Commission, CC Docket No. 96-98, *Comments of AT&T Corp.*, Attachment C, Affidavit of William J. Baumol, Janusz A. Ordoover, and Robert D. Willig, May 16, 1996, ¶ 19.

access is the delivery of long distance minutes from customer's premises to the IXC POP without traversing Ameritech's local switch, and without necessarily traversing Ameritech's central office. Treating them separately permits a separate evaluation of the LDC portion and the dedicated transport portion of the services, which is precisely the approach that Ordoover and Willig argued is critical to ensuring that Ameritech lacks market power.<sup>19</sup>

Second, contrary to Ordoover and Willig's assertion, I did not indicate that the two are "near-perfect substitutes"<sup>20</sup> from a market definition standpoint (whether "the two" refers to special access and switched access, as they claim, or special access and dedicated transport for switched access), but rather that dedicated transport for special access and dedicated transport for switched access are near-perfect substitutes in *supply*. Drs. Ordoover and Willig are well-versed in antitrust economics and therefore are well aware of the fact that, as I also took pains to point out in my Report, market definition under the FTC/DOJ Horizontal Merger Guidelines relies on demand-side substitution, not supply-side substitution (supply-side substitution determines which firms are "in the market"). Hence, their attempt to discredit my analysis by pointing to a supposedly internal inconsistency is based on a claim that I did not make.

Finally, their conclusion that my methodology understates Ameritech's market power because "Ameritech's share of switched access services is likely even higher than of special access"<sup>21</sup> is merely a red herring. Ameritech's market share in the local market, which presumably is what Ordoover and Willig are referencing in their discussion of Ameritech's share of "switched access," is not relevant. Switched access refers to the delivery of minutes of long distance traffic between Ameritech's local switch and the customer's premises, provided over the local loop. Ameritech is not seeking forbearance on switched access, which is subject to separate regulation.

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<sup>19</sup> *AT&T Opposition*, Exhibit A, ¶ 17.

<sup>20</sup> *AT&T Opposition*, Exhibit A, ¶ 35.

<sup>21</sup> *AT&T Opposition*, Exhibit A, ¶ 35.

Ordoover and Willig's concern appears to be that forbearance on special access will decrease Ameritech's incentives to decrease prices for switched access, because "[t]he grant of forbearance in pricing special access would make it easier for Ameritech to capture or retain more elastic customers who otherwise would have to be captured or retained with lower prices for switched access."<sup>22</sup> The way a carrier "captures or retains more elastic customers," however, is by decreasing the price. Hence, Ordoover and Willig's concern is apparently that forbearance will make it easier for Ameritech to lower the price of special access. Rather than being a dire consequence of forbearance, this benefits customers.

#### 6. Geographic market

Ordoover and Willig object to Ameritech's request for forbearance for the Chicago LATA rather than the MSA. According to their affidavit, "Ameritech does not even attempt to claim that price-constraining competition exists across [the entire Chicago LATA]." <sup>23</sup> They base this claim on three arguments. First, they point to a footnote in my Report in which I indicate that the QSI market share statistics pertain to the MSA rather than the LATA; they conclude that Ameritech has therefore provided no justification for forbearance outside the MSA. <sup>24</sup> This is incorrect. While it is true, as I did indeed readily point out in my Report, that the QSI data does not cover the area outside the MSA, I presented other results that *do* pertain to the entire LATA, including (1) the percentage of switched access minutes generated from Ameritech wire centers with collocation, and (2) the percentage of high-capacity revenues and special access LDCs attributed to Ameritech wire centers/service areas in which CLEC facilities are present.

Second, they claim that the market share numbers for the Chicago suburbs do not support forbearance. Their discussion, however, suggests a misunderstanding of the data I provided. First, as is clear from the table they cite, the 72% figure to which they refer<sup>25</sup> pertains to dedicated transport, not special access, as they erroneously claim. I did not

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<sup>22</sup> *AT&T Opposition*, Exhibit A, ¶ 36.

<sup>23</sup> *AT&T Opposition*, Exhibit A, ¶ 37.

<sup>24</sup> *AT&T Opposition*, Exhibit A, ¶ 38.

report any separate market share statistics for special access LDCs for the suburbs. Second, Ordoover and Willig go on to claim that I cite to collocation statistics to demonstrate that special access is competitive. In fact, I cite to collocation only in support of the claim that *dedicated transport* is competitive. Hence, the figures they cite in paragraphs 39 and 40 pertain to dedicated transport, not special access, and both the market share of dedicated transport, and collocation, are indeed relevant to and indicative of facilities-based competition for dedicated transport.

Third, Ordoover and Willig argue that the evidence that collocation is extensive provides “further confirmation” that Ameritech retains market power over special access. This argument reveals a misunderstanding both of collocation and of my argument. Again, I provided the evidence of collocation strictly in support of the extent of competition for dedicated transport, not for special access, as I made clear in my Report. It is in fact impossible to provide dedicated transport for switched access to Ameritech’s customers without collocating, whether the transport is being provided over AT&T’s facilities, Ameritech’s, or a third party’s. Hence, collocation is direct evidence of competitive provision of that service. No part of my analysis implied or assumed that competitive suppliers of special access have built or necessarily would build LDCs from Ameritech’s central office.

Regarding competition for special access, I provided evidence that I developed not from collocation data, but from data regarding the actual fiber backbone facilities owned by AT&T and MCI. Hence, again, I do not appeal in any way to the collocation data as evidence of special access competition, but rather rely on the presence of competitive fiber that traverses the wire center territory. In doing so, I implicitly assumed that competitors would build special access facilities to customers directly from their fiber backbone, and not from Ameritech’s central office. AT&T confirmed that this



assumption corresponds to actual competitor practices,<sup>26</sup> and it is also precisely the assumption made in the entry model we developed and present below.

In addition to the evidence I supplied in my initial Report, the supplemental evidence that I supply in this affidavit addresses CAP expansion in suburban areas and throughout the LATA. The CAP expansion study presented in Section IV demonstrates that there are strong financial incentives for CAPs to expand to locations that account for a significant majority of Ameritech's high-capacity revenues, even in less dense areas of the LATA.<sup>27</sup>

7. Ameritech's Pricing Behavior is Consistent with That of a Firm Facing Competition, Given Ameritech's Regulatory Pricing Constraints

Finally, Ordoover and Willig argue that Ameritech's pricing behavior contradicts the evidence of competition in the high-capacity markets in Chicago. In particular, they state that under existing zone-pricing regulations, Ameritech is permitted to set rates that "reflect cost differentials across metropolitan, small city, and rural zones," and offer customers non-discriminatory term and volume discounts. Based on this assertion, they conclude that, "[t]he fact that Ameritech has not availed itself of this pricing flexibility to lower prices suggests strongly that Ameritech is not currently subject to effective

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<sup>26</sup> "AT&T and other competitive access providers, ('CAPs') where it is economically and technically feasible to do so, connect customers directly to their fiber rings and thereby provide both the LDC function and the dedicated transport function." *AT&T Opposition*, Exhibit A, ¶ 41, citing Exhibit B, ¶¶ 4,7.

<sup>27</sup> Ordoover and Willig attempt to argue that Ameritech could deter entry in non-competitive areas by offering a contract that provides service at short-run incremental cost. If they are imagining that the entry deterrence would occur by Ameritech *actually* offering such contracts, then they ignore the fact that while such contracts might harm AT&T, they would only benefit consumers. That hardly qualifies as violating the public interest. If they imagine that Ameritech will deter entry by *threatening* to offer such contracts if a CLEC attempted to enter, they ignore the fact that the threat is not likely to be subgame perfect; that is, it is not a credible threat because it generally would not be in Ameritech's interest to act on the threat if the CLEC actually entered. In any event, Ordoover and Willig's concerns about entry deterrence would apply to any market in which entrants must make sunk investments, which is to say, any real market, and would therefore argue for regulation of any and all markets in the U.S. economy.

competition and that the deregulation Ameritech seeks would give it the ability to raise prices.”<sup>28</sup>

Their arguments demonstrate a misunderstanding of the pricing flexibility available to Ameritech under dominant carrier regulation, an incomplete view of the structure, history, and impact of the zone pricing regulations, and an incorrect interpretation of Ameritech’s actual pricing behavior.

First, the authors’ assertion that zone boundaries correspond with metropolitan, small city, and rural boundaries is simply not true. Zone boundaries are determined by assigning Ameritech’s wire centers to a particular zone “based upon the traffic density of the area serviced by that central office.”<sup>29</sup> This may or may not correspond to “metropolitan, small city, and rural boundaries” and in fact often does not. For example, the adjacent wire centers of Arlington Heights and Elk Grove<sup>30</sup> are in Rate Zones 2 and 1, respectively. Both wire centers have comparable high-capacity revenues, and both are traversed by competitive fiber. Moreover, Drs. Ordovery and Willig appear to be misinformed in their assertion that Ameritech has the ability to offer individual customers “non discriminatory” term and volume discounts. In fact, Ameritech’s volume and term discounts must be structured so that anyone can take advantage of these offerings, and they must be supported by a cost study. Once a price is tariffed, it cannot be rescinded from the market without regulatory approval. Ameritech is not permitted to respond to specific competitive offerings or RFPs, or offer customized, individual contracts to meet specific customers’ needs. The Commission has specifically denied such requests in the past, indicating that “dominant” carriers (as Ameritech is designated to be unless the

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<sup>28</sup> *AT&T Opposition*, Exhibit A, ¶ 44. See also Federal Communications Commission, CC Docket No. 99-65, *Opposition of the Telecommunications Resellers Association* (“TRA Opposition”), March 31, 1999, pp. 18-19; *Opposition of Sprint Corporation* (“Sprint Opposition”), pp. 10-11).

<sup>29</sup> Federal Communications Commission, *In the Matter of Expanded Interconnection with Local Telephone Company Facilities*, Request for Approval of the Special Access Rate Zone Plan for the Ameritech Operating Companies, CC Docket No. 91-141, p. 1.

<sup>30</sup> CLLI codes ARLHILAH and EGVGILEG, respectively.

Commission grants forbearance) do not have the authority to offer “contract-type” tariffs, i.e., tariffs that focus on individual customers’ demands.<sup>31</sup>

Ordoover and Willig incorrectly suggest that the zone pricing rules are sufficient to permit Ameritech to respond to different cost conditions. They are not. While the zone-pricing structure for special access represents an attempt to allow some pricing flexibility to “reasonably reflect cost-related characteristics,”<sup>32</sup> it is insufficient for a number of reasons. First, while traffic density is indeed a cost driver, traffic density can vary meaningfully within a zone, and can vary significantly over time. Within a zone, the traffic density at a research park or business center may significantly reduce the costs of serving that area relative to the rest of the zone. Moreover, businesses move, expand, and contract, and the traffic densities can therefore change significantly; at the same time, it is a slow and cumbersome regulatory process to make changes in the zone designations to reflect changes in the cost and business realities of an area. For example, a major company that used to have its offices on several floors of the high-rise office building in Evanston where LECG resides recently vacated that space and built its own campus in Lake Forest, IL. This move may have significantly changed the cost characteristics of serving businesses in the Lake Forest area, but Ameritech would be constrained from pricing accordingly to those customers due to the suddenly outdated zone designation. More generally, the zone designations that were established in 1993 may no longer reflect the cost characteristics of many areas.

In addition, it is clear that traffic density is not the only cost driver. Within a wire center service area, there are number of variables that affect Ameritech’s costs in addition to Ameritech’s special access traffic density. These costs may include the average length of the facility or the construction of the facilities (aerial cables, buried cables, or cable in conduits). Moreover, aside from the cost variation within zones, Ameritech is constrained from responding to cost variations across zones with the same designation in

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<sup>31</sup> Federal Communications Commission, CC Docket No. 95-140, *Order Terminating Investigation*, November 28, 1995.

<sup>32</sup> 47 C.F.R. § 69.123. See also Federal Communications Commission, *In the Matter of Ameritech Operating Companies Zone Density Pricing Plans*, DA 93-869, ¶ 2.

different parts of the state. As I explained in my initial Report, under zone pricing regulation, Ameritech's rates to a Zone 2 customer in, say, the north side of Chicago must correspond with the Zone 2 price it charges customers everywhere else in the state of Illinois.

Finally, Ordoover and Willig's claim that Ameritech has not used its pricing flexibility is misleading and oversimplifies the price history in the market. First, Ameritech does differentiate price by zone to the extent reasonable, given that there is a great deal of averaging necessary within zones. Moreover, Ameritech has been pricing below its cap for the last six years, and only now is beginning to hit the cap. This is despite the fact that the productivity factor has been revised upward (causing the cap to decline) three times in the last several years, and the change was retroactive twice. The repeated significant revisions to the productivity factor have not only forced the cap down at a rate that may exceed the productivity increases in the market, but the process certainly has subjected Ameritech to significant regulatory risk that reasonably could be expected to distort pricing decisions. More important, Ameritech has offered and attempted to offer (subject to approval by the Commission) a number of promotional and price and service plans, as detailed in the affidavit of Ms. Reidy (attached as Appendix IV). These are precisely the sort of pricing efforts one would expect in a competitive environment: as I explained in my initial Report,<sup>33</sup> in competitive markets, firms attempt to attract and retain customers by creating various pricing structures and plans that serve customer needs and meet heterogeneous preferences.

### **B. Responses of Mr. Degregorio and Mr. Polete**

Exhibits C and D of AT&T's Opposition are the affidavits of Mr. Rocco Degregorio and Mr. Robert E. Polete, respectively. Based on internal AT&T data, each of these affiants calculated various statistics that purportedly conflict with those presented by QSI.

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<sup>33</sup> *Aron Report*, pp. 10-11.

Mr. Degregorio calculated the distribution of Teleport Communications Group's (TCG) high-capacity access revenues attributed to each wholesale customer. He then compared his results with those of QSI and determined that the latter "varied as much as 35.70% for a given TCG interexchange carrier customer."<sup>34</sup>

Mr. Polete calculated the percentage of AT&T's expenditures on (1) customer premises-to-SWC special access LDCs and (2) POP-to-SWC special access and dedicated transport of switched access LDCs.<sup>35</sup> He claims that at the end of the first quarter of 1998, 91 percent of AT&T's expenditures on customer premises-to-SWC (Serving Wire Center) LDCs in the Chicago LATA were attributable to Ameritech; and more than 96 percent of AT&T's expenditures on POP-to-SWC LDCs in the Chicago LATA were to Ameritech.<sup>36,37</sup> While QSI does not estimate how many of AT&T's customer premise to SWC LDCs are purchased from Ameritech, QSI's first quarter 1998 report<sup>38</sup> indicated that only 48% of AT&T's POP-to-SWC LDCs were purchased from Ameritech. It is this latter statistic to which Mr. Polete indirectly compares his results to suggest that QSI's estimates are flawed.

The analyses of Mr. Degregorio and Mr. Polete suffer from several shortcomings that prevent a meaningful interpretation of their results and which prevent a meaningful comparison of their results to those of QSI. Mr. Degregorio and Mr. Polete continually compare "apples to oranges," presenting statistics that were compiled in an entirely different manner than that used by QSI. Further, Mr. Degregorio and Mr. Polete present

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<sup>34</sup> *AT&T Opposition*, Exhibit C, ¶ 10.

<sup>35</sup> More specifically, the POP-to-SWC channel termination has two names in the tariff literature: in Ameritech's special access tariff (Tariff FCC # 2, Section 7) it is referred to as an LDC; in Ameritech's switched access tariff (Tariff FCC #2, Section 6) it is referred to as an Entrance Facility (EF). To avoid confusion, I refer to all channel terminations as LDCs.

<sup>36</sup> While Mr. Polete presents a single statistic of 91 percent for AT&T's customer premises-to-SWC LDC expenditures attributed to Ameritech, he distinguishes between AT&T's DS1 and DS3 POP-to-SWC expenditures attributed to Ameritech. Accordingly, 99.9 and 95.6 percent of AT&T's DS1 and DS3 POP-to-SWC LDC expenditures, respectively, were attributed to Ameritech. See *AT&T Opposition*, Exhibit D, ¶¶ 9, 11, 14.

<sup>37</sup> Notice that Mr. Polete's results suggest that the POP-to-SWC segment of the market is more concentrated than the customer premises-to-SWC segment. However this finding contradicts that of another intervening party, MCI WorldCom, which asserts that interexchange carriers use competitive facilities for the POP-to-SWC portion much more often than the customer premises-to-SWC portion.

no documentation for the assumptions underlying their conclusions (indeed, they do not indicated what the assumptions are).<sup>39</sup>

First, both authors specify a different unit of measurement from that specified by QSI. As clearly documented in all of its reports, QSI calculates a carrier's customer distribution and market share statistic based on its volume of DSI-equivalent circuit counts.<sup>40</sup> In contrast, Mr. Degregorio and Mr. Polete choose to calculate their statistics based on dollars rather than circuit counts. This is important for the following reasons. First, Mr. Degregorio's analysis compares results from TCG data to a table in the QSI report to which I never refer and upon which I do not rely. Hence, presumably his only purpose was to call into question the overall validity of the QSI results in general, by claiming a divergence with the result of this specific table. However, the QSI results referred to by Mr. Degregorio were based on circuit counts, not revenues, as is clear from page 8 of QSI's 4<sup>th</sup> Quarter 1998 report.<sup>41</sup> Presumably, TCG has data on its own circuit counts; if Mr. Degregorio wanted to invalidate the QSI results, why not calculate the circuit count figures based on TCG data? It is not surprising that the revenue-based shares would differ from the circuit-count shares, and their divergence neither is surprising nor does it imply that QSI's results are invalid.

Second, Mr. Polete's calculations again represent an apples-to-oranges comparison because (1) his calculation is based not on circuit counts, as were the QSI data to which he compares his numbers,<sup>42</sup> but to AT&T's "expenses" on circuits; and (2) he reports his figures for the entire LATA rather than the city and suburbs, as does QSI. Again, Mr. Polete presumably could have calculated shares in the same way QSI did, but

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<sup>38</sup> Aron Report, Exhibit 8, p. 15.

<sup>39</sup> Third, the analysis of Mr. Degregorio includes a broader category of high-capacity access elements than that specified by QSI. The QSI results included only POP-to-SWC LDCs; QSI did not consider any other high-capacity components, such channel mileage facilities and customer premises-to-SWC LDCs. In contrast, Mr. Degregorio's calculations include TCG expenditures on all high-capacity access service elements.

<sup>40</sup> Aron Report, Exhibit 8, pp. 7 - 8.

<sup>41</sup> Aron Report, Exhibit 8, p. 8.

<sup>42</sup> Aron Report, Exhibit 8, p. 8

he chose not to. While both of these assumptions invalidate the comparability of Polete's results to QSI's, the former is potentially more critical.<sup>43</sup>

The numbers Mr. Polete arrives at are somewhat curious, given that the entire TCG network is owned by AT&T and therefore would be part of AT&T's self-provisioned facilities. If Ameritech's facilities really constituted close to 100% of AT&T's SWC to POP facilities, one wonders what happened to all of that TCG fiber. For example, I understand from Ameritech that under an effort termed "project Augusta," AT&T migrated more than 500 high-capacity circuits from Ameritech to TCG's fiber. Given this migration, it is difficult to comprehend how Ameritech could be providing virtually all of AT&T's LSO-to-POP transport.

Mr. Polete's share of "expenditures" obviously depends critically on what he assumed about AT&T's "expenditure" on self-provisioned circuits. For example, if he assumed that AT&T's expenditures on self-provisioned circuits are close to zero, (on the logic, perhaps, that AT&T does not "pay itself" for circuits), then Ameritech's share of AT&T's expenditures would be close to 100%, by assumption. This would only be due to the choice of "expenditure" based shares, and the failure to properly assign expenditures to self-provisioned circuits. In fact, we have no way of knowing how Mr. Polete accounted for expenditures on self-provisioned circuits, as his entire explanation consists of one sentence: "To the extent that any self-provisioning occurred, it was accounted for and assigned its appropriate expense."<sup>44</sup> The critical term "appropriate expense" is nowhere defined, documented, or quantified. Had he based his calculation on circuit counts rather than "expenditures," as QSI did, not only would his measure have been in units comparable to those of the QSI results, but there would have been no ambiguity or subjectivity regarding his assumptions on expenditures for self-provisioning.

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<sup>43</sup> MCI WorldCom's claim that Ameritech's facilities represent "over 80% of MCI WorldCom's high capacity cost in the Chicago LATA" suffers from exactly the same weaknesses. See *MCI WorldCom Opposition*, p.20.

<sup>44</sup> *AT&T Opposition*, Exhibit D, ¶ 8.

### C. Responses of Mr. Bennett and Mr. Rowland

Exhibits B and E to AT&T's Opposition are the affidavits of Mr. Bruce Bennett and Mr. Timothy Rowland, respectively. Mr. Bennett's declaration attributes the difficulties of competing in the Chicago access market as arising from the terms and conditions of collocation. The author describes collocation arrangements as serving a single function for the CLEC: "to connect customers served by Ameritech's LDCs to [a competitor's] dedicated transport thereby providing special access."<sup>45</sup>

It is simply incorrect to assert that the *only* function of collocation is to provide special access over Ameritech's LDCs. Even for a competitor that provides special access entirely over its own facilities, collocation is necessary if that competitor wants to provide dedicated transport for switched access over its own facilities. Collocation may in fact serve *only* to provide this function for a competitor that is providing special access from its own backbone to the customer over its own facilities. Hence, contrary to Mr. Bennett's assertions, the evidence of competitors' extensive collocation does not demonstrate control by Ameritech of special access LDCs but rather provides evidence of competition for dedicated transport.

Mr. Bennett goes on to list AT&T's grievances regarding the terms of collocation. Similarly, Mr. Rowland discusses the difficulties of self-provisioning LDCs and the "entry barriers" that these difficulties impose on competitors. He attributes much of these difficulties to the fact that the "new entrant must incur many costs that incumbents like Ameritech have avoided altogether."<sup>46</sup>

An important omission from the declarations of Mr. Rowland and Mr. Bennett is an explanation as to how the expenditures they describe impose a barrier to entry.<sup>47</sup>

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<sup>45</sup> AT&T Opposition, Exhibit B, ¶ 7.

<sup>46</sup> AT&T Opposition, Exhibit E, ¶ 6.

<sup>47</sup> MCI similarly argues that Ameritech enjoys cost advantages, but does not claim, let alone prove, that these form a barrier to entry. See *MCI WorldCom Opposition*, p. 22.



Neither Mr. Rowland nor Mr. Bennett makes any attempt to establish the magnitude or the scope of the costs that they assert to exist. It is not unusual for competitors in a market to possess comparative cost advantages in certain processes of production. Costs, even asymmetric ones, do not necessarily constitute a barrier to entry. The relevant issue to assessing whether or not Ameritech should be released from dominant carrier regulation in the Chicago LATA is the following: supposing that Ameritech has some comparative advantage over its rivals, is the extent of this advantage such that it precludes competitors from effectively competing in the Chicago LATA? This is fundamentally an empirical issue, and the affiants support their position with nothing but miscellaneous anecdotes and unsupported claims. The empirical fact is that CLECs such as AT&T are collocated in a substantial number of Ameritech's wire centers in the Chicago LATA, as the collocation addressability figures in my initial Report indicated. If the cost of collocating were so high as to make it unprofitable, as one might infer from Mr. Bennett's affidavit, presumably these carriers would not have chosen to do so. For his part, Mr. Rowland claims that because "the cost of connecting a building to a fiber ring is strongly dependent on the distance from the building to the ring...a new entrant's addressable customer base, even with respect to high traffic customers, is limited to those customers and buildings that are located within a close proximity to one of its fiber rings." (p. 3) A more rigorous examination of the facts, as detailed in Section IV, reveals that there is a strong financial incentive for competitors to expand their fiber networks to customers with moderate amounts of high-capacity service demand, even when these customer locations are a mile or more from the competitor's existing fiber routes.

Moreover, with its recent acquisition of TCI, AT&T's build-out strategy is not restricted to the construction of new facilities. AT&T has clearly stated its objective to utilize its cable assets for the transport of its telecommunications traffic. A recent article in the *Wall Street Journal* stated that AT&T will be spending "\$2 billion more than originally anticipated to accelerate plans to upgrade TCI's cable lines so they can provide

local, Internet and advanced-video service by the end of this year in 10 markets.”<sup>48</sup> Furthermore, on February 1, 1999 AT&T announced a joint venture with Time Warner that will enable AT&T to reach directly into an additional 20 million American homes.<sup>49</sup> AT&T’s CEO, C. Michael Armstrong, stated that “together with our merger with [TCI] and agreements with five TCI affiliates, the Time Warner joint venture will enable AT&T to reach more than 40 percent of U.S. households over the next four to five years.”<sup>50</sup> Exhibit 1 demonstrates the extensive network of cable facilities in the Chicago LATA to which AT&T has obtained access via asset purchases or “swap” agreements.<sup>51</sup> Examination of that map makes clear that AT&T and the cable providers with which it has swap agreements have high-capacity cable facilities that go all the way to customers’ homes in most of the Chicago LATA served by Ameritech. In light of AT&T’s pervasive cable facilities, AT&T will be able to avoid some build-out entirely.

### III. RESPONSE TO THE COMMENTS OF OTHER PARTIES

In this section, I respond to issues raised by intervenors other than AT&T in this docket.

#### A. The Elasticity of Supply

MCI claims in its response comments that “customers have no competitive alternatives to Ameritech on the vast majority of the high-capacity routes in the Chicago LATA”<sup>52</sup> and that, therefore, Ameritech is wrong in asserting that there is a high supply elasticity. MCI WorldCom speculates that “CAP networks extend to at most a few

<sup>48</sup> Blumenstein, Rebecca, “Ma Bell is Going Back to its Roots,” *The Wall Street Journal*, January 11, 1999, page A3.

<sup>49</sup> “AT&T in joint venture with Time Warner: Telecommunications link-up with cable group to give access to an Extra 20m homes,” *The Financial Times*, London edition, February 2, 1999, p.31.

<sup>50</sup> *AT&T Press Release*, “AT&T and Time Warner form strategic relationship to offer cable telephony,” February 1, 1999.

<sup>51</sup> A “swap” agreement is when two cable providers agree to exchange cable assets in their respective franchise territories.

<sup>52</sup> *MCI WorldCom Opposition*, p. 9.

hundred buildings in the Chicago LATA,” and estimates that “no more than 5 percent of the high-capacity special access locations in the Chicago LATA are connected to a competitor’s network.”<sup>53</sup> MCI’s estimates are based not on any analysis of the Chicago market, but on extrapolation from data pertaining to *Phoenix* that was presented in US West’s Phoenix forbearance petition.<sup>54</sup>

MCI WorldCom does not refute in any way the route map of its fiber as provided by QSI. The fact is, as I will show in Section IV, marrying that map, and the map of AT&T’s fiber network, with data on Ameritech’s customer locations demonstrates that 453 of Ameritech’s customer locations are already *directly on* AT&T’s and/or MCI’s fiber. That means that for these locations, the competitor would need no fiber build out at all to serve the customers there. Moreover, these 453 locations are not random selections from Ameritech’s customer base; these customer locations alone account for almost 40% of Ameritech’s high-capacity revenue in the Chicago LATA. Another 554 locations are within 100 feet of the CAP fiber route. MCI WorldCom’s speculations about the lack of competitive alternatives are simply contradicted by the data. Its additional claims regarding the lack of supply elasticity and the inability of CAPs to build out to Ameritech’s customers are similarly rebutted by analysis of the data in Section IV.

**B. DS1 Equivalence as a Measure of Market Share and Other Claims that QSI’s Results are “Riddled With Errors”**

MCI WorldCom declares that “[t]he Quality Strategies report is riddled with methodological errors.” First, MCI WorldCom complains that “LDC market share data based on end user customer surveys is likely to be unreliable.”<sup>55</sup> Its logic is that, while the end-user customer knows the carrier from which the special access circuit was ordered, the end-user customer may not know which carrier is the actual provider of the underlying LDC.

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<sup>53</sup> MCI WorldCom Opposition, p. 9.

<sup>54</sup> MCI WorldCom Opposition, p. 9, n.17.

<sup>55</sup> MCI WorldCom Opposition, p. 18.

QSI addresses this concern in its attached statement. As explained in the attached statement, QSI's survey methodology involves interviewing the professional telecommunications manager at the customer company, who is not an uninformed consumer but is typically a well-informed buyer.

Second, MCI WorldCom argues that QSI's DS1 equivalent calculations are designed to overstate competitors' market share gains in that the multiplication of DS3 LDCs by 28 "gives disproportionate weight to the small number of very high-capacity IXC POP-serving wire center LDCs... This allows Ameritech to claim that a high percentage of LDCs are in 'competitive' wire centers even if, as is the case, competitive alternatives for end office-to-end user premises LDCs are extremely limited."<sup>56</sup>

This argument reflects a misunderstanding of the special access and dedicated transport market shares presented in my first Report. If the QSI special access market share combined both customer premises-to-SWC LDCs and IXC POP-serving wire center LDCs, MCI WorldCom's concern might be valid. However, as verified by QSI in its attached statement, the special access shares examine the customer premises-to-SWC special access LDC only. They do not include LDC facilities that go to the IXC POP. The dedicated transport shares examine the IXC POP-to-SWC special access and dedicated transport LDCs. To the extent that there is a distinction in the competitiveness of these two high-capacity elements, they are separately identified in their respective market shares.

Finally, MCI WorldCom argues that the Commission should attach no weight to the QSI data on Ameritech's and competitors' shares of the new growth circuits in that it "is inconsistent with available data concerning Ameritech's special access business."<sup>57</sup> For example, it is highly unlikely that Ameritech would report record growth in its "interstate special access" revenue in Illinois – 22 percent – at a time when CAPs were winning a majority share of the market growth.

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<sup>56</sup> MCI WorldCom Opposition, p. 12 (footnote omitted).

<sup>57</sup> MCI WorldCom Opposition, p. 21.

Again, this is a false comparison that attempts to create the illusion of inconsistency when there is no reasonable comparison to be made. Contrary to MCI WorldCom's assertions, it is not necessarily inconsistent for a producer with a declining share to experience significant revenue growth in a market undergoing phenomenal demand growth. Ameritech Illinois' growth in special access revenue reflects not only Ameritech's share of the growth of the market, but also reflects factors such as the absolute size of the growth of the market, changes in the revenue mix of customers, and revenue growth from customers outside the Chicago LATA.

For example, the increase in competitive presence and migration to competitive facilities may have induced new customers to opt for shorter-duration term contracts from Ameritech, and existing customers to switch to shorter term contracts or month-to-month rather than renew long duration contracts when they expire. Both of these effects would cause revenue to rise in the short run, though the change is indicative of, not inconsistent with, increased competitive pressure.

### **C. The Economic Impact of Ameritech's Term Plan Termination Liabilities**

MCI WorldCom argues that demand in the Chicago high-capacity access market is inelastic due to the term plan "termination liabilities" that Ameritech imposes on its customers.<sup>58</sup> It asserts that long-duration term plans serve to "lock-in" Ameritech's installed customer base.<sup>59</sup> In turn, they argue that "[c]ompetitors are therefore limited in their ability to 'prove in' additional routes, expand their networks, and develop economies of scale."<sup>60</sup>

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<sup>58</sup> *MCI WorldCom Opposition*, p. 13.

<sup>59</sup> MCI WorldCom also argues that "prohibitive nonrecurring charges" have the effect of locking in customers. (See *MCI WorldCom Opposition*, p. 13) Of course, if the non-recurring charge were prohibitive, the customer would not have purchased from Ameritech, by definition, and therefore could not be locked in. Presumably MCI WorldCom means to characterize Ameritech's nonrecurring charges as "excessive" or some similar adjective; but whether Ameritech's nonrecurring charges are or are not "excessive," they can have no lock-in effect because once incurred by a customer they are sunk.

<sup>60</sup> *MCI WorldCom Opposition*, p. 13.

In order to understand the role of term plan termination liabilities on demand elasticity in this market, it is important to understand both how Ameritech's term contracts work and certain details of the high-capacity market structure. Regarding the former, Ameritech offers a menu of contracts of different durations. Those with longer time commitments involve a lower price. The purchaser pays the lower price as long as it abides by the duration of the contract. If, however, the purchaser wishes to end the contract before the duration of the term, the purchaser is responsible for paying only the difference between what it would have paid under the term contract corresponding to the term they actually fulfilled, and the price it actually paid. There is no other "penalty" for ending the contract. For example, if the customer signed a five-year contract but decided to change suppliers after one year, the customer would be required to pay the difference between the five-year contract price (per month) and the one-year contract price, for each circuit leased for the one year. Hence, the customer who stays with Ameritech for only one year pays exactly what it would have paid had it signed up for a one year contract to begin with, and no additional penalty or fee for breaking the five-year deal.

Analyzing the structure of the industry is also critical for understanding the effect of term plan contracts on demand elasticity. The undisputed fact that Ameritech has a tiny retail share in the special access market implies that the majority of its term plans in the high-capacity market are at the wholesale level with IXCs, such as AT&T and MCI WorldCom, rather than with end-use customers. These IXCs are Ameritech's two largest competitors in the Chicago LATA. In deciding to enter or expand their participation on a facilities basis in a certain segment of the special access market, the IXC with the existing retail relationship can choose simply to time the expiration of its wholesale contracts to coincide with its build out. In the mean time, the IXC retains the retail relationship until it becomes convenient to replace Ameritech's facilities with its own. Hence, the fact that the IXCs for the most part own the retail relationships permits them to manage the timing of their build-outs so as to limit any costs associated with terminating long-term contracts with Ameritech. The relevant demand elasticity reflects the IXCs' resulting build-or-wait decision; the end-use customer is largely quarantined from any switching costs.

In the LECG CAP expansion model that I present in Section IV, the duration of all Ameritech term plans is explicitly accounted for. The results from this model, which I present in the following Section, speak for themselves. Entry is viable to serve the significant majority of Ameritech's customer locations, even given any effects of Ameritech's term contracts. We assume that if a competitor wants to serve a particular location, it must either wait until the termination of the contract, "buy out" the contract, or serve only the new growth at the location until the contract expires (See Appendix II for details). Based on the structural characteristics of the market and the empirical evidence, it is very difficult to justify demand elasticity as an impediment to competitive entry or expansion.

**D. Ameritech Does Not Have the Incentive or Ability to Engage in Anticompetitive Behavior**

Several intervening parties warn that if the FCC forbears from imposing price cap constraints on Ameritech it will engage in anticompetitive behavior, such as (1) subsidizing its participation in the high-capacity access market with the revenues it earns in the local exchange market and/or subsidizing certain (competitive) customers in the high-capacity access market with revenues earned from the remaining (non-competitive) customers in this market;<sup>61</sup> and (2) setting its high-capacity access prices in a "predatory" manner in order to eliminate competition.<sup>62</sup>

Both arguments are without economic merit. First, to the extent that the cross-subsidizing services are *unregulated*, Ameritech would presumably have already been setting its prices at the profit-maximizing level, subject to competitive constraints. If it decided to exercise its newly conferred freedom to reduce the prices of its high-capacity access services in the Chicago LATA to meet competition there would be no point in its

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<sup>61</sup> *Sprint Opposition*, p. 11; *TRA Opposition*, p. 15; Federal Communications Commission, CC Docket No. 99-65, *Comments of the Association for Local Telecommunications Services in Opposition to the Petition for Forbearance ("ALTS Opposition")*, p. 6; *Opposition of the Competitive Telecommunications Association ("CompTel Opposition")*, p. 7; *Comments of CoreComm Ltd. ("CoreComm Opposition")*, pp. 7 - 8; *Comments of NextLink Communications, Inc. ("NextLink Opposition")*, pp. 10 - 11.

attempting to recover its losses by raising the prices of the other (previously unregulated) services – since there would have been no reason for it not to have been pricing them at the most profitable, feasible level already.

Second, to the extent that the cross-subsidizing services are *regulated*, there is no reason why the regulators of those services would permit these prices to be increased merely because Ameritech decided to reduce the prices of its newly liberated high-capacity access services in the Chicago LATA.

The crucial issue regarding predatory pricing is whether such prices can drive competitors out of the market and keep them out long enough for Ameritech to be able to recoup its losses by charging higher prices subsequent their departure. The likelihood of predation is extremely low, in light of the structural characteristics of the high-capacity market: competitors have already installed substantial capacity in the Chicago market that is sunk. For them to decide to exit the market, the market price would have to be held below short-run variable cost. The fact that there is a substantial gap between total and short-run variable cost suggests that predation would be an extremely costly strategy for Ameritech to undertake. Moreover, even in the highly unlikely case that Ameritech succeeded in driving out its competitors, it would not drive out the competitors' facilities that have already been installed. Any subsequent attempt on Ameritech's part to price substantially above cost in order to recoup the losses it incurred from its predatory behavior would be met by competitors entering the market, utilizing the facilities that had been installed prior to Ameritech's predation.

#### **E. The Significance of Market Share as a Measure of Market Power**

Focal/KMC and McLeod dispute the contention made in my initial Report that “courts virtually never find monopoly power when market share is less than 50%,” stating that “[t]he Commission should reject the view that a market share of less than 50% automatically requires a finding of non-dominance.”<sup>63</sup> Their argument is that the

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<sup>62</sup> *Sprint Opposition*, pp.4 - 5; *CoreComm Opposition*, pp. 7 - 8; *NextLink Opposition*, pp.10 - 11.

<sup>63</sup> Federal Communications Commission, CC Docket No. 99-65, *Comments of Focal Communications Corporation and KMC Telecom Inc.*, March 31, 1999 (“*Focal/KMC*”).



numerous cases I cited to are not relevant because the telecommunications market “started as a monopoly.”<sup>64</sup> While they cite no legal precedent or economic theory in support of their view that the undisputed legal precedent is inapplicable in this industry, I point out here that the fact that the industry “started as a monopoly” makes a 50% market share indicative of *more* competition, not less. As I explained in my initial Report,<sup>65</sup> market shares are path dependent, which implies that an incumbent's market share tends to understate the degree of competition in markets undergoing deregulation.

Moreover, I did not claim, as implied by Focal/KMC, that a market share less than 50% (or any specific level) “automatically” requires a finding of non-dominance. As I said in my Report, “[e]conomists and the courts recognize that market share is only a starting point for assessing market power.”<sup>66</sup> For that reason, my analysis relied on several other factors, including the extent of CLEC fiber, and the financial power of Ameritech's competitors. I provide yet more evidence below.

CoreComm goes even further than Focal/KMC, arguing that “Ameritech has not even attempted to assert that any one of the competitive providers controls a percentage of the market that is any way comparable to the commanding share controlled by Ameritech.”<sup>67</sup> Apparently CoreComm is of the mistaken opinion that competition is generally enhanced if competitors have comparable market shares to each other. This view is contradicted quite clearly by the standard measure of market concentration used by the Department of Justice, the Herfindahl-Hirschman Index (HHI).<sup>68</sup> The HHI is calculated as the sum of the squares of the market shares of the firms in the market. The higher is the HHI, the more concentrated is a market, and therefore the more it is generally subject to potential abuse of market power. It is a simple mathematical proposition that for any given level of market share for Ameritech, the HHI would

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*Opposition*”), p. 6; *Comments of McLeodUSA Telecommunications Services Inc. (“McLeod Opposition”)*, pp. 6 - 7.

<sup>64</sup> *Focal/KMC Opposition*, p. 6.

<sup>65</sup> *Aron Report*, p. 24.

<sup>66</sup> *Aron Report*, p. 21.

<sup>67</sup> *CoreComm Opposition*, p. 8.

<sup>68</sup> *Department of Justice and Federal Trade Commission Horizontal Merger Guidelines (“Merger Guidelines”)*, April 2, 1992, § 1.5.

increase as the market share of any other firm increased, holding the number of firms constant; and the HHI would be higher as the number of other firms in the industry decreased. Hence, if there were another firm with market share comparable to Ameritech's, that would render the industry more concentrated, not less.

For it to be the case that, contrary to the standard rule, a more concentrated industry is in fact more effectively competitive than a less concentrated one, there must be some significant impediment to competing that is necessarily faced by firms with a small market share. Such impediments might be a lack of access to capital, constraints on capacity coupled with a significant constraint on the ability to expand capacity, or lack of access to technical expertise. Clearly, such conditions do not hold in this market. The competitors in this market include large, well-financed, and sophisticated firms that can and do provide effective competition. CoreComm's view that the market for high-capacity services should be *more* concentrated in order to be deemed competitive is simply inconsistent with the facts of this industry.

#### **IV. EMPIRICAL RESULTS FROM THE LECG CAP EXPANSION MODEL**

The intervening parties assert that the cost of constructing facilities beyond low-cost and/or high-demand areas precludes significant further expansion of CAP facilities-based competition in the Chicago LATA.<sup>69</sup> This is the key tenet of their position that the geographic market is confined to specific point-to-point routes, and does not encompass the Chicago LATA. MCI states that competitors "can address a significant fraction of Ameritech's high capacity market only by making investments that are prohibitive."<sup>70</sup> Based on similar assertions, Drs. Ordover and Willig maintain that the Commission should either require evidence of existing LATA-wide competition or, alternatively, "specific, verifiable, and conclusive evidence that where entry is not, in fact, occurring, why it would occur in a timely manner and on an efficient scale to render unprofitable

<sup>69</sup> *AT&T Opposition*, pp. 9 – 10.

<sup>70</sup> *MCI WorldCom Opposition*, pp. 12-13.

any attempt by the incumbent to exercise market power if forbearance were granted.”<sup>71</sup> In this section I provide such evidence using results from the LECG CAP Expansion Model (LCEM).

The objective of the CAP expansion model is to assess CAPs’ financial incentives to extend their facilities in the Chicago LATA to the majority of high-capacity service customer locations that are served today on Ameritech’s facilities. The analysis compares the present values of the cost of leasing facilities from Ameritech with the present values of costs to competitors of extending their own facilities. For all DS1 and DS3 customer locations in the Chicago LATA, the LCEM compares the present values of cash flows associated with building, operating, and maintaining facilities for high-capacity services with the cost of leasing facilities from Ameritech. For locations where the model indicates that the present value of building, operating, and maintaining facilities is less than the present value of leasing these facilities from Ameritech, the model indicates that the CAP has an attractive financial opportunity to supply its own facilities. For these locations, there is no meaningful financial barrier to expansion of CAP facilities to serve the majority of the high-capacity customer locations served on Ameritech’s facilities today, especially considering the substantial financial resources of MCI WorldCom and AT&T.<sup>72</sup>

In the model, I take the CAPs’ backbone facilities as given, and extend fiber “spurs” from the CAP backbone facilities (not from Ameritech’s wire centers) to provide service to actual individual customer locations that are served today using Ameritech’s facilities.<sup>73</sup> Using this information, the model estimates the incremental costs associated with extending facilities to customer locations. These costs include: (1) equipment costs, such as the costs of digital loop carriers (DLCs); (2) network operating costs, for activities such as maintenance; and (3) fiber costs, which include the right of way, fiber,

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<sup>71</sup> *AT&T Opposition*, Exhibit A, ¶ 22.

<sup>72</sup> Also recall from my initial Report that AT&T stated its plans to “reduc[e]...our dependence on the Bell companies for direct connections to business” and “operate the nation’s most extensive, broadband local network platform.” (*Aron Report*, p. 7 n.12, 13.)

<sup>73</sup> CAP backbone facilities’ routes were provided by Quality Strategies, and were not disputed by AT&T or MCI WorldCom.

and installation costs. Collocation costs are not included because collocation is not necessary for the CAPs to provide special access service directly to customers' premises. Of the three cost categories, fiber costs are the only category that are a function of the distance between the competitor's network and customer locations.

I assume that each customer location is served via a separate spur from the backbone to the location. That is, I assume away all of the economies of density that CAPs in fact enjoy. For example, if two customers are located near each other but at some distance from the backbone, the LCEM nevertheless "builds" a separate spur to each location. In reality, a CAP would not build two individual spurs to the two customers, but rather would extend the backbone or shared facilities closer to the locations and build spurs from there. This would significantly decrease the amount of additional fiber necessary, correspondingly decreasing costs. Hence, my default approach is highly conservative. The impact of distance-sensitive fiber costs is made apparent when I present alternative model results under the assumptions that two or more customer locations can share fiber costs. Also note that the model is not based on *all* of the CAP fiber that is in the ground today. QSI's *Ameritech CAP/CLEC Network Descriptions Report*, Third Quarter 1998, is the source for all data on CLEC facilities in the Chicago LATA. The data are limited to two competitors – AT&T and MCI WorldCom. None of the fiber known to have been put in place by other competitors, such as NextLink, is represented in these maps.<sup>74</sup> Moreover, QSI examined only Chicago and its surrounding suburbs. As I indicated earlier, fiber outside of this area but within the LATA was not captured in their studies. Hence, the model is based on only a subset of the fiber in place. This increases the distances that competitors are assumed to have to build out to reach certain locations, and it, therefore, increases the costs estimated by the model.

The first step in the modeling exercise was to obtain data on the services, revenues, and geographic coordinates at each location where Ameritech is currently a

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<sup>74</sup> NextLink is included in the model as a competitor to high-capacity customer locations that are currently on NextLink's network.

facilities provider of high-capacity service in the Chicago LATA. Step two was to determine the distances of these customer locations from existing fiber routes of TCG and MFS. This analysis reveals that revenues are highly concentrated in locations that are closest to existing CAP fiber routes. In Chart 1, the 4,934 Ameritech high-capacity customer locations in the Chicago LATA are placed in deciles based on their distances from existing CAP fiber. Each decile, therefore, comprises approximately 493 customers, where decile 1 is defined as the 493 Ameritech customers nearest to either TCG/AT&T or MFS/MCI WorldCom's fiber networks. As shown in this chart, the closest 50 percent of the locations account for 71 percent of the total high-capacity revenues collected by Ameritech but require only 2 percent of the total fiber that would be necessary to build out to every one of the 4,934 customer locations. Conversely, the most distant 20 percent of the customer locations account for only 13 percent of the revenue but require 86 percent of the total fiber.

**Chart 1: Ameritech Revenue and  
CAP Distance per Decile:  
All Networks in Chicago LATA**

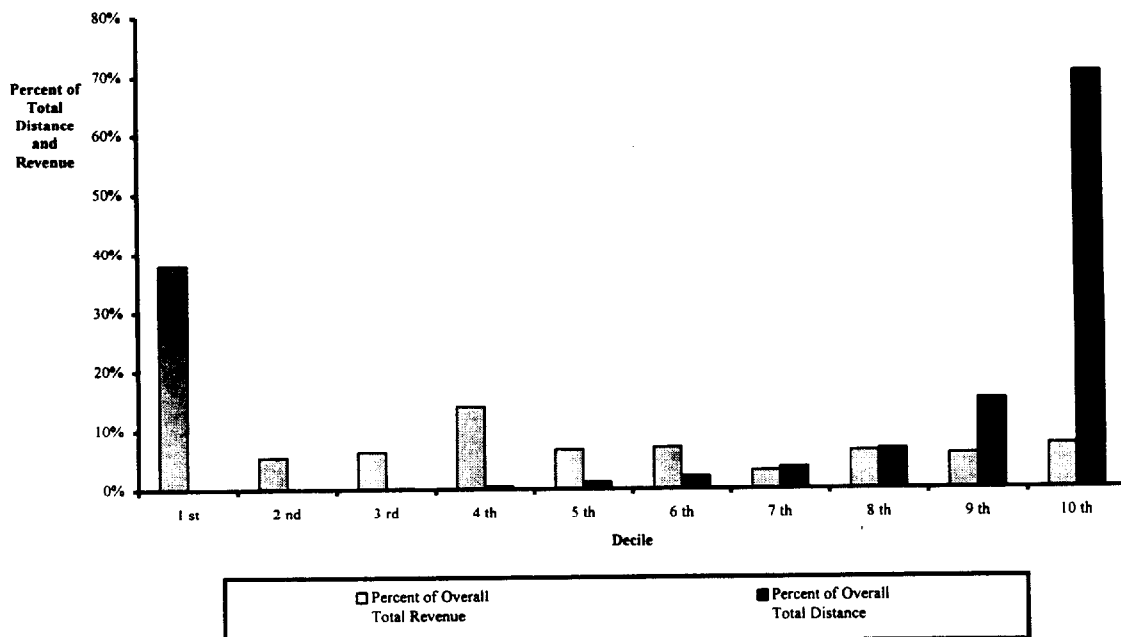
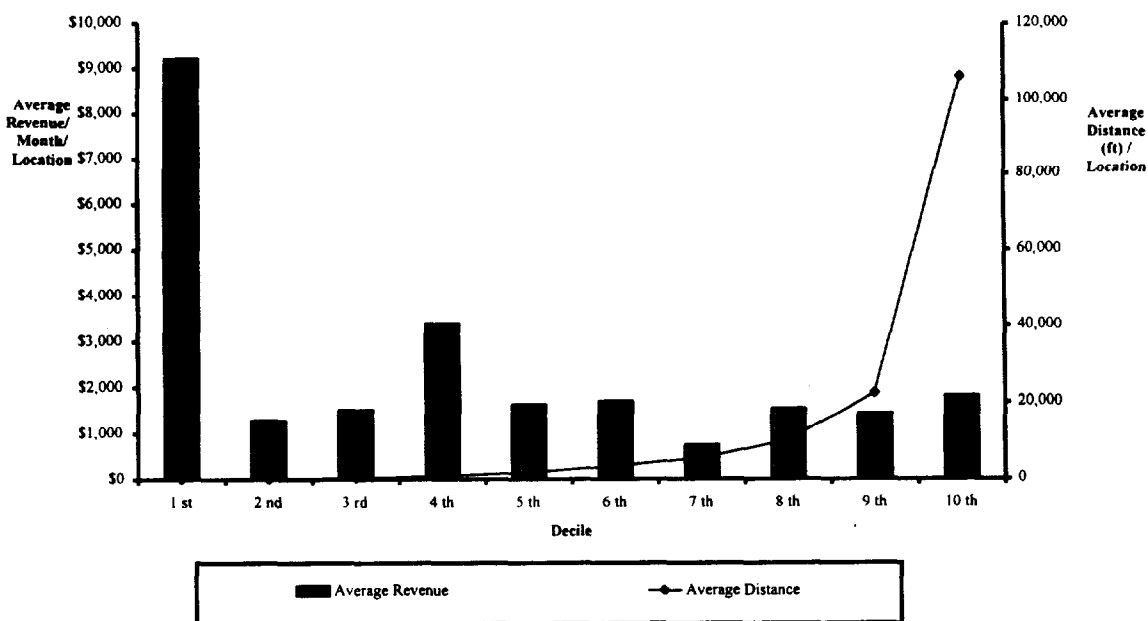


Chart 2 takes this analysis one step closer to costs. Using the same deciles as the chart above, this chart compares average revenue per location in each decile with the average distance separating the locations from CAP fiber routes. This chart shows that approximately 50 percent of the customer locations are within 2,000 feet of existing CAP fiber. This is not much more than a city block. Viewed in conjunction with the previous chart, this means that 70 percent of the revenue is within this distance of existing CAP fiber. Taken together, these two charts indicate that high-capacity revenues are concentrated within customer locations and within close proximity to CAP fiber routes. This is a key component of the competitive conditions in the Chicago LATA. It accounts for the extensive fiber build-outs that have already occurred and provides very strong financial incentives for continued expansion of CAP facilities. Given these conditions, claims by AT&T and MCI that they will not continue to expand their high-capacity networks strain credulity beyond reasonable belief.

**Chart 2: Ameritech Revenue  
and CAP Distance per Decile:  
All Networks in Chicago LATA**



Contrary to the assertions of the opposing parties, my analysis demonstrates that there is a strong financial incentive for MFS/MCI WorldCom and TCG/AT&T to extend facilities to locations that account for more than 90 percent of Ameritech's high-capacity revenue in Chicago. The results of the LECG CAP expansion model shown in Chart 3 reveal that if the closest CAP can capture all of the revenues at a location to which it extends its fiber, the CAPs have positive-value opportunities to extend facilities to 71 percent of the customer locations in the LATA, and that these locations account for 92 percent of Ameritech's high-capacity service revenue. If the closest CAP can capture only one-half of the revenue at each location, the CAPs still have the financial incentive to build-out to 53 percent of the locations. These locations account for 85 percent of Ameritech's high-capacity service revenue in the Chicago LATA. As I will show below, these are conservative estimates.

This baseline run of the model assumes:

- Price declines of 5 percent per year beginning in year 2000;
- Initial DS1 demand growth of 30 percent per year tapering to 8 percent; and
- A 11.25 percent cost of capital.

Support for these and other inputs and assumptions are provided in the attached description of the model (Appendix II).

### **Chart 3: Chicago: Analysis of Successful CAP Entries**

		<b>CAP1 Takes All</b>	<b>CAP1 Takes 1/2</b>
	<b>Total</b>		
Locations	4934	3507	2633
Percentage		71%	53%
Monthly Revenue (000s)	\$11,999	\$11,082	\$10,196
Percentage		92%	85%

Note: 30% growth tapering to 8%.

A somewhat more detailed look at the results of the analysis (Chart 4) shows that vast majority of the customer locations within 2,000 feet present an attractive financial opportunity for a CAP, even when they can move only 50 percent of Ameritech's revenue at these locations onto their own facilities. (Note: these are distance groups based on predetermined ranges for modeling purposes; they are different than the deciles used in the previous charts.)

### **Chart 4: Chicago: Analysis of Locations With a Successful Business Case When Closest CAP Takes Half the Revenue**

<b>Distance Group</b>	<b>Distance From Cap Fiber Route (Feet)</b>	<b>Locations</b>	<b>Revenue (000s)</b>	<b>Locations With Successful Case</b>	<b>Revenue At Successful Locations (000s)</b>	<b>Pct. Of Locations</b>	<b>Pct. Of Revenue</b>
1	0	453	\$4,504	453	\$4,504	100%	100%
2	1-100	554	\$697	554	\$697	100%	100%
3	100-500	440	\$708	440	\$708	100%	100%
4	500-1K	400	\$792	352	\$766	88%	97%
5	1K-2K	501	\$1,284	349	\$1,227	70%	96%
6	2K-4K	584	\$1,239	281	\$1,123	48%	91%
7	4K-9K	701	\$630	146	\$416	21%	66%
8	9K-15K	357	\$623	46	\$450	13%	72%
9	15K+	944	\$1,522	12	\$305	1%	20%
<b>Total</b>		<b>4,934</b>	<b>\$11,999</b>	<b>2,633</b>	<b>\$10,196</b>	<b>53%</b>	<b>85%</b>

Note: 30% growth tapering to 8%. Competitor takes half of demand.

Looking one layer deeper at the underlying data reveals in Chart [ ] that most of the locations that do not show positive financial opportunities in my analysis are locations that: 1) lie farther than 9,000 feet from known existing CAP fiber ; and 2) have fewer than three DS1s. Recall from Chart 5 that locations in distance groups 7 through 9 account for almost all of the locations that do not provide positive value in my analysis. Approximately 80 percent of the locations in these distance groups have fewer than 3 DS1s.



## Chart 5: Locations With Fewer Than 3 DS1s

Distance Group	Distance From Cap Fiber Route (Feet)		1 or 2 DS1s	
		Locations	Locations	Pct.
1	0	453	126	28%
2	1-100	554	367	66%
3	100-500	440	323	73%
4	500-1K	400	305	76%
5	1K-2K	501	390	78%
6	2K-4K	584	457	78%
7	4K-9K	701	551	79%
8	9K-15K	357	278	78%
9	15K+	944	744	79%
<b>Total</b>		<b>4,934</b>	<b>3,541</b>	<b>72%</b>

As stated previously, I use the very conservative assumption in my analysis that CAPs would build separate spurs to each customer location. Map 1 provides a fairly detailed view of the Greater Chicago Area, with AT&T's fiber and Ameritech's customer locations indicated. It is apparent that both the fiber and customer locations are dense. Map 2 shows the entire LATA. Because of the smaller scale this map shows less detail, but it is apparent that there are few customers who are outside of the main area of customer density. Moreover, these customers are almost always in clusters with or near to other high capacity customers, so that there are few cases where a provider would not have opportunities for scale economies to build out to those customers. Map 3 provides the most compelling evidence of the viability of building out to the majority of even the most distant customers. On the map, the red squares are "on-net" buildings, i.e., those buildings that already have a competitor's fiber installed. (These are all positive business case locations.) The blue squares are all the other locations with positive business cases.<sup>75</sup> Pink squares are those with negative business cases in our model. Examination of these locations indicates why the LATA is in fact a reasonable geographic delineation for forbearance. It is apparent that by far, most of the pink locations are in clusters. The

<sup>75</sup>

This map represents the outcome of the business case model under the scenario where "CAP 1 takes all the revenue."

critical observation is that in virtually every one of these clusters, there is at least one “blue” location, i.e., at least one location with a positive business case. Now recall that our model considers the viability of building out a spur all the way from the existing (known) fiber to each location; it does not consider the economies of building a single fiber path out to a cluster and then building spurs off of that. But clearly, if it is viable to build a spur to a single customer in a cluster, then it would be viable to build spurs off of that to locations clustered nearby. This is a real-world provisioning strategy that is obvious in practice but difficult to model. In my opinion, the map itself makes a very powerful case that a large share of the “pink” locations on the map would make a viable business case piggy-backed off of the nearby “blue” locations. The more serious potential concern, that there would be geographically isolated customers who would therefore have no competitive alternatives, appears to be entirely dispelled by the map. The wide and distant dispersion of the blue (positive business case) locations and the clustering of the customers around them makes it apparent that very few customers would be unattractive targets for facilities-based competitors.<sup>76</sup>

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I note again, as well, that there may be fiber in those areas already, but the QSI study that produced the fiber maps did not cover the Chicago area outside the LATA, and we therefore do not know what fiber exists there.

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## **Map 1: AT&T Fiber in Greater Chicago Area**

**Information Submitted Under Separate Cover  
With Request for Confidential Treatment**

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## **Map 2: Customer Locations in the Chicago LATA**

**Information Submitted Under Separate Cover  
With Request for Confidential Treatment**

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**Map 3: Customer Locations  
by Results of Business Case Model**

**Information Submitted Under Separate Cover  
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To demonstrate the potential impact of relaxing my separate-spur assumption to allow for clusters, I reran my analysis after decreasing the fiber attributed to each location to one-half and one-fourth the amount of fiber required to run separate spurs. The potential impact of relaxing this assumption to reflect real-world clustering of customer locations is shown in Chart 6.

### **Chart 6: Increased Ability of CAPs to Provide Facilities-Based Service When Locations Share Fiber Routes**

	<b>Total</b>	<b>CAP 1 Takes All</b>	<b>CAP 1 Takes 1/2</b>
Individual Spurs	4,934	70%	53%
Two Locations Sharing All Routes		82%	75%
Four Locations Sharing All Routes		85%	83%

To respond to the concern that Ameritech would have an incentive not to lower its prices in the current competitive environment, I reran the model with prices held constant, rather than decreasing by 5 percent per year beginning in year 2000, as assumed in the baseline run of the model. As expected, the results from this analysis, presented in Chart 7, show that holding prices constant would provide even greater financial incentives for CAPs to extend facilities to Ameritech's high-capacity customer locations. Chart 7 provides a matrix of results for two price trajectories, the baseline price declines and fixed prices, and three levels of route sharing among locations.

## Chart 7: Summary of Chicago Results for Various Price and Route Sharing Scenarios

Route Sharing Assumptions	5% Price Decline		Flat Prices	
	Pct. Of Locations	Pct. Of Revenue	Pct. Of Locations	Pct. Of Revenue
No Route Sharing	71%	92%	85%	96%
Two Locations Sharing All Routes	81%	95%	95%	100%
Four Locations Sharing All Routes	85%	96%	100%	100%

The results in Chart 7 indicate that, if Ameritech remains under price caps and if the productivity factor continues to drive down the cap and, ultimately, prices significantly, there will be considerably less competitive build out than would be the case if Ameritech were to hold prices steady at current levels. The fact that competitors will have significantly more incentive to build out if prices remain steady (or, obviously, if they rise), is direct evidence of the powerful incentive for Ameritech to decrease prices. If Ameritech were to attempt to increase prices, it would invite its competitors to encroach on its customers even more aggressively.

## V. CONCLUSION

The objections raised by intervenors to Ameritech's petition for regulatory forbearance in the Chicago LATA are without merit. The results of my initial Report are sound, and my conclusions are strongly supported by new evidence presented in this Report. Analysis of the data on Ameritech's actual customer locations and the locations of CAP fiber demonstrates that the supply elasticity in the Chicago market is high and that much of Ameritech's revenue is, in fact, very low-hanging fruit. Moreover, the competitor's supply-response incentive is demonstrably sensitive to Ameritech's retail prices. The higher Ameritech's future prices, the more build-out there will be and the more revenue Ameritech will lose. This fact vividly demonstrates the real competitive constraints already at work and should alleviate any fears regarding Ameritech's ability to exercise market power.